



April 18, 2014

NRC 2014-0029  
10 CFR 50.46(a)(3)(ii)

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, DC 20555

Point Beach Nuclear Plant, Units 1 and 2  
Dockets 50-266 and 50-301  
Renewed License Nos. DPR-24 and DPR-27

10 CFR 50.46 Annual Report/30-Day report

In accordance with 10CFR50.46(a)(3)(ii), NextEra Energy Point Beach, LLC (NextEra) is submitting this annual report of changes to, and errors discovered in, emergency core cooling system (ECCS) evaluation models for Point Beach Nuclear Plant (PBNP), Units 1 and 2. This report also includes a 30-day report for large break loss of coolant accident. This letter provides a summary of ECCS evaluation model changes and errors identified for the Year 2013.

The Enclosure describes the ECCS evaluation model changes and errors for the large and small break loss of coolant accident (LOCA). Table 1 provides the large break LOCA margin summary sheet for 2013/2014. Table 2 provides the small break LOCA margin summary sheet for 2013.

This submittal contains no new commitments or revisions to existing commitments.

Very truly yours,

NextEra Energy Point Beach, LLC

A handwritten signature in black ink, appearing to read "m. millen".

Michael Millen  
Licensing Manager  
Point Beach Nuclear Plant

Enclosure

cc: Administrator, Region III, USNRC  
Project Manager, Point Beach Nuclear Plant, USNRC  
Resident Inspector, Point Beach Nuclear Plant, USNRC

## ENCLOSURE

### NEXTERA ENERGY POINT BEACH, LLC POINT BEACH NUCLEAR PLANT, UNITS 1 AND 2

#### 10 CFR 50.46 ANNUAL REPORT

This report of changes to, and errors discovered in, emergency core cooling system (ECCS) evaluation models for Point Beach Nuclear Plant (PBNP) Units 1 and 2, for the Year 2013 (large break and small break loss of coolant accidents) and 30-Day report (large break loss of coolant accident), are provided pursuant to 10 CFR 50.46(a)(3)(ii). The report provides a summary of ECCS evaluation model changes and errors identified since previous reports (References 1, 2 and 3). Westinghouse Electric Company is the analysis of record holder for the Point Beach Units 1 and 2 Large Break and Small Break loss of coolant accident (LOCA) analyses. Large Break LOCA analysis is performed using the Westinghouse Best Estimate Large Break LOCA Evaluation Model using ASTRUM methodology. Small Break LOCA analysis is performed using the Westinghouse Small Break LOCA Evaluation Model with NOTRUMP.

#### LARGE BREAK LOCA EVALUATION MODEL

##### 10 CFR 50.46 Year 2013 Annual Report

There were no changes since Reference 2.

##### 10 CFR 50.46 Year 2014 30-Day Report

The following two changes, since the Reference 3 report, have been identified and are described below.

- Grid Heat Transfer Enhancement Calculation; For a specific input condition, the grid heat transfer enhancement factor is calculated based on an erroneous core geometry, which can cause an over-prediction of the heat transfer coefficient at gridded elevations. The estimated impact of this change is 0 °F.
- Changes to Grid Blockage Ratio and Porosity; A change in the methodology used to calculate grid blockage ratio and porosity resulted in a change to the grid inputs for LBLOCA analyses. Grid inputs affect heat transfer in the core during a LBLOCA. The estimated impact of this change is 0 °F.

The schedule for LBLOCA re-analyses is as provided previously in Reference 4.

Table 1 provides a summary of LBLOCA PCT changes for Point Beach Units 1 and 2.

## SMALL BREAK LOCA EVALUATION MODEL

The following one change, since Reference 1 report, has been identified and is described below.

- SBLOCTA Cladding Strain Requirement for Fuel Rod Burst; An error was discovered in the minimum local strain required for burst in the SBLOCTA code and is estimated to be 0 °F.

Table 2 provides a summary of SBLOCA PCT changes for Point Beach Units 1 and 2.

### References:

1. NRC 2013-0043, M. Millen NextEra Energy Point Beach, LLC to US NRC Document Control Desk, "Point Beach Nuclear Plant, Units 1 and 2, Dockets 50-266 and 50-301, Renewed License Nos. DPR-24 and DPR-27, 10 CFR 50.46 Annual Report," June 18, 2013.
2. NRC 2013-0081, M. Millen NextEra Energy Point Beach, LLC to US NRC Document Control Desk, "Point Beach Nuclear Plant, Units 1 and 2, Dockets 50-266 and 50-301, Renewed License Nos. DPR-24 and DPR-27, Large Break Loss-of-Coolant Accident Margin Summary Sheet – 30-Day Report," August 23, 2013.
3. NRC 2014-0012, M. Millen NextEra Energy Point Beach, LLC to US NRC Document Control Desk, "Point Beach Nuclear Plant, Units 1 and 2, Dockets 50-266 and 50-301, Renewed License Nos. DPR-24 and DPR-27, Large Break Loss-of-Coolant Accident Margin Summary Sheet – 30- Day Report," February 13, 2014.
4. NextEra Energy Point Beach, LLC letter to NRC, dated March 1, 2013, "Thermal Conductivity Degradation Impact on Large Break Loss of Coolant Accident Analyses with ASTRUM Response to Request for Additional Information" (ML13063A289).

**TABLE 1**

**LARGE BREAK LOCA MARGIN SUMMARY SHEET – 2013 ANNUAL REPORT  
30-DAY REPORT**

Plant Name: Point Beach Units 1 and 2  
Utility name: NextEra Energy  
Evaluation Model: Westinghouse Best Estimate Large Break LOCA Evaluation Model using ASTRUM

Evaluation Model PCT (Unit 1/Unit 2): **1975°F/1810°F**

**10 CFR 50.46 2013 Annual Report**

			<b>Net PCT Effect Unit 1/Unit 2</b>	<b>Absolute PCT Effect Unit 1/Unit 2</b>
A	Prior 10 CFR 50.46 Changes or Error Corrections – up to Year 2012	ΔPCT	+151 °F/+285 °F	151 °F/285 °F
B	Prior 10 CFR 50.46 Changes or Errors Corrections – Year 2013*	ΔPCT	+9 °F/-39 °F	9 °F/53 °F
C	10 CFR 50.46 Changes in Year 2013 Since Item B	ΔPCT	None	None

D	End of Year 2013 PCT		2135 °F / 2056 °F	
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**10 CFR 50.46 30-Day Report**

E	Prior 10 CFR 50.46 Changes or Errors Corrections – Year 2014**	ΔPCT	+50 °F / 0 °F	50 °F / 0 °F
F	10 CFR 50.46 Changes in Year 2014 Since Item E			
	Grid Heat Transfer Enhancement	ΔPCT	0 °F/0 °F	0 °F/0 °F
	Changes to Grid Blockage Ratio and Porosity	ΔPCT	0 °F/0 °F	0 °F/0 °F

G	Absolute Sum of 10 CFR 50.46 Changes	ΔPCT		210 °F/338 °F
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<p>The sum of the PCT from the most recent analysis using an acceptable evaluation model and the estimates of PCT impact for changes and errors identified since this analysis</p>			<p><b>2185 °F/2056 °F &lt; 2200 °F</b></p>	
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\* Changes associated with item B were previously reported in Reference 2.

\*\* Change was previously reported in Reference 3.

**TABLE 2**

**SMALL BREAK LOCA MARGIN SUMMARY SHEET – 2013 ANNUAL REPORT**

Plant Name: Point Beach Units 1 and 2  
Utility name: NextEra Energy  
Evaluation Model: Westinghouse Small Break LOCA Evaluation Model with NOTRUMP

Evaluation Model PCT (Unit 1/Unit 2): **1049°F/1103°F**

			<b>Net PCT Effect</b> Unit 1/Unit 2	<b>Absolute PCT Effect</b> Unit 1/Unit 2
A	Prior 10 CFR 50.46 Changes or Error Corrections – up to Year 2012	ΔPCT	0 °F/0 °F	0 °F/0 °F
B	Prior 10 CFR 50.46 Changes or Errors Corrections – Year 2013	ΔPCT	0 °F/0 °F	0 °F/0 °F
C	10 CFR 50.46 Changes in Year 2013 Since Item B			
	SBLOCTA Cladding Strain Requirement for Fuel Rod Burst	ΔPCT	0 °F/0 °F	0 °F/0 °F
D	Absolute Sum of 10 CFR 50.46 Changes	ΔPCT		0 °F/0 °F
<p>The sum of the PCT from the most recent analysis using an acceptable evaluation model and the estimates of PCT impact for changes and errors identified since this analysis</p>			<p><b>1049 °F/1103 °F &lt; 2200 °F</b></p>	